AMSAT News Service Weekly Bulletins
Issue: ANS-029
Date: 1990-01-30
Sources: amsat-ans-1990-ans-029.01.txt

Posted: Tue, Jan 30, 1990 9:44 PM GMT Msg: DGJA-4153-1532
From: CDUNCAN
To: is
CC: W1AW
Subj: ANS$030

SB ALL @ AMSAT $ANS-029.01
AMSAT'S BUSIEST WEEK, PART 1

HR AMSAT NEWS SERVICE BULLETIN 029.01 FROM AMSAT HQ
SILVER SPRING, MD JANUARY 30, 1990
TO ALL RADIO AMATEURS BT

This week has been the busiest in AMSAT history. It started on Sunday evening when ESA launched six amateur radio satellites on an Ariane IV launch vehicle. After successfully separating each of the new OSCARs (14 through 19) from the launch vehicle, the AMSAT engineering team successfully commanded ON the telemetry beacons on LUSAT, PACSAT, and WEBERSAT. The DOVE satellite turned itself on (each of the microsats are running software that will turn on the transmitter when the on-board battery voltage exceeds a specified value). AMSAT-UK commanded ON the beacons of the two UOSATs during their fourth orbit.

Through out the week, the AMSAT engineering team has been busy transmitting commands to the satellites and decoding telemetry to determine the status of each. All of the various functions and experiments on each satellite must be exercised prior to commissioning the birds for general use. Other members of the engineering team have been attempting to characterize the orbit of each of the birds by evaluating AOS (Acquisition of Signal), TCA (Time of Closest Approach), and LOS (Loss of Signal) along with Doppler shift variations. Because the OSCARs do not carry RADAR transponders, it will be a week or two before NASA and NORAD can accurately identify each of the objects.

Bob McGwier N4HY and Harold Price NK6K are taking lead roles in commanding the microsats and analyzing the telemetric data provided by each bird. The amount of work to accomplish over the next few weeks is nothing short of staggering. Caring for a new satellite during the early part of its life span is very analogous to caring for a new baby, and in this case Bob and Harold have got to care for quadruplets. Rumor has it that they are not getting much sleep!

/EX
SB ALL @ AMSAT $ANS-029.02
AMSAT'S BUSIEST WEEK, PART 2

HR AMSAT NEWS SERVICE BULLETIN 029.02 FROM AMSAT HQ
SILVER SPRING, MD JANUARY 30, 1990
TO ALL RADIO AMATEURS BT

Although their transmitters run only 0.5 - 4 watts, each of the satellites has an extremely strong signal that is easily received using an HT with a rubber duck antenna. The telemetry on each of the microsats is in 'packetized' form (AX.25). PACSAT, LUSAT and WEBERSAT are using a PSK modulation technique transmitting above 437 MHz and DOVE, transmitting on 145.825 MHz, is using an AFSK modulation technique identical to standard amateur TNCs. Initial check-out of the S-Band (2401 MHz) packet beacon on PACSAT shows it to be operating nominally and the 100+ KHz of Doppler shift makes for an interesting decoding challenge.

Over the next few weeks it will be critical that accurate records of satellite telemetry be recorded. Bob McGwier has requested that interested amateurs "... continue to gather and store telemetry for the next couple of weeks minimum while we learn (how) to control these birds and how they like their new home. An announcement will be made shortly concerning a collation and archiving center for this data.

Finally, the AMSAT engineering team requests in the strongest possible terms "DO NOT ATTEMPT TO TRANSMIT TO ANY OF THE NEW SATELLITES" They have not been commissioned for general use and unauthorized transmission to the satellites could cause serious harm to its operation while interrupting important testing of each bird. By letting the engineering team do their job without interference, they will be able to deliver healthy satellites to the amateur community that much sooner.

/EX
SB ALL @ AMSAT $ANS-029.03
UPDATE ON UO-14 AND UO-15

HR AMSAT NEWS SERVICE BULLETIN 029.03 FROM AMSAT HQ
SILVER SPRING, MD JANUARY 30, 1990
TO ALL RADIO AMATEURS BT

The two UOSATs were successfully commanded ON during the first day from the University of Surrey, where they were designed and constructed. Later in that day, the on-board computer operating system (DIARY) - 17 k-bytes of computer code - was uploaded to both satellites. One of the important features of the DIARY is its ability to store telemetry data during one or more orbits and to relay this data to the ground station. This technique was first used on UoSAT-OSCAR-9, and dubbed "Whole Orbit Data" or WOD. The next step in the commissioning of UO-14 is to deploy the navigation magnetometer and gravity gradient boom. After this has been accomplished, software to attain Earth-pointing lock will be executed. These maneuvers should be undertaken during the next 10-14 days, if all goes well.

UO-15 was also loaded with the FORTH DIARY on the 2025 UTC pass on 22 JAN 90. The DIARY executed as expected, telemetry values were nominal, and a WOD survey was started during the 2206 UTC pass. Telemetry from the DIARY was automatically recorded at the UoSAT Control Station during the 2330 UTC pass, and no unexpected values were observed. During the 1010 pass on 23 JAN 90 (approximately 25 hours after the satellite was initially commanded to life) no downlink was received at Surrey from UoSAT-OSCAR-15. Since that time, there have been no signals that could be attributed to UO-15 received by the University of Surrey. Anyone who copied UO-15 telemetry during 22/23 JAN is requested to contact AMSAT-UK in Surrey, or AMSAT-NA so that the telemetry can be studied to determine the cessation of transmission from UO-15.

/EX
SB ALL @ AMSAT $ANS-029.04
THE "OUTSIDE" WORLD WATCHES THE LAUNCH

HR AMSAT NEWS SERVICE BULLETIN 029.04 FROM AMSAT HQ
SILVER SPRING, MD JANUARY 30, 1990
TO ALL RADIO AMATEURS BT

There has been a fair amount of media coverage of the launch of the Ariane IV V-35 mission including specific coverage of the amateur satellites. CNN Headline News had a story within 30 minutes of the launch and subsequent reports went into some detail about the Microsats. German ARD Television had an interview with Junior DeCastro PY2BJO about DOVE. Leo RA3AT reported that the Soviet news agency TASS, Central Radio and TV also carried a story on the launch and specifically mentioned the amateur radio satellites. Space News and InfoWorld have apparently written articles on the launch to be published soon.

To show the extent to which "outsiders" have shown interest in the launch of the the six satellites, consider the following story from Chris Williams, WA3PSD:

> Faculty and students at Weber State College have provided a significant amount of time and materials toward the Microsat program as well as the upcoming Phase IV program. It was announced this week that the State of Utah's Board of Regents voted against the heated objections of the University of Utah and Utah State University to change the status of Weber State College. The matter had been under consideration for some time. The school will henceforth be called Weber State University. The successful launch of Webersat was called "significant" as an influence on the decision.

/EX
SB ALL @ AMSAT $ANS-029.05
APPOINTMENT OF DIGITAL GATEWAY COORDINATOR

HR AMSAT NEWS SERVICE BULLETIN 029.05 FROM AMSAT HQ
SILVER SPRING, MD JANUARY 30, 1990
TO ALL RADIO AMATEURS BT

AMSAT Vice President for Operations, Courtney Duncan, N5BF, announces the appointment of Harry Morton III, WB2IBO, AMSAT-NA Technical Coordinator for Digital Gateways. Harry will be close to developments in packet message forwarding via the recently launched pacsats. He will be the AMSAT point of contact for those wishing to participate by 1) configuring packet bulletin boards for pacsat access and automatic pacsat forwarding, 2) establishing pacsat relays for use by terrestrial packet bulletin boards, or 3) establishing pacsat relays for use by terrestrial end users who do not have their own satellite capability.

Harry is now establishing a mailing list consisting of those who intend to set up such stations. He will be operating a pacsat node himself and will be available for consultation with those who wish to put other nodes on the air and maintain them for reliable amateur radio satellite access. He may be contacted at 261 N. Chestnut Street, North Massapequa, New York, 11758 for additional information.

/EX
SB ALL @ AMSAT $ANS-029.06
MICROSAT NAMING CONVENTION CLARIFIED

HR AMSAT NEWS SERVICE BULLETIN 029.06 FROM AMSAT HQ
SILVER SPRING, MD JANUARY 30, 1990
TO ALL RADIO AMATEURS BT

In recent weeks there has been some confusion as to the on-orbit designators for the four Microsats launched January 22. AMSAT-NA President and General Manager Doug Loughmiller, KO5I, has reviewed relevant agreements and other AMSAT-NA documents and has determined that the following designators are to be used:

PACSAT	AMSAT-OSCAR-16	AO-16
DOVE	DOVE-OSCAR-17	DO-17
WEBERSAT	WEBERSAT-OSCAR-18	WO-18
LUSAT	LUSAT-OSCAR-19	LO-19

Each of the Microsats except PACSAT was built by AMSAT-NA engineers for and in cooperation with amateurs from other organizations: BRAMSAT (AMSAT-Brazil); Weber State University, Ogden, Utah; and AMSAT-Argentina respectively. Each of the projects has been governed by its own "Memorandum Of Understanding." These MOUs specify the names to be given to the satellites before and after placement

in orbit and other relevant technical and administrative details.

The AMSAT News Service regrets any confusion that may have been caused through previous errors in the use of satellite designators.

Courtney Duncan, N5BF, AMSAT VP Operations

/EX
SB ALL @ AMSAT $ANS-030.07
KUDOS FOR AMSAT MICROSATS, PART 1

HR AMSAT NEWS SERVICE BULLETIN 030.07 FROM AMSAT HQ
SILVER SPRING, MD JANUARY 30, 1990
TO ALL RADIO AMATEURS BT

Congratulatory Messages Pour In For The New OSCARs

Almost immediately after the launch of the AMSAT MICROSATs on January 21, 1990, messages of congratulations and praise started to pour in from around the world. Here are brief summaries of the messages received at AMSAT Headquarters:

ARRL: "Congratulations to AMSAT for the successful orbiting of four MICROSATs. What the AMSAT team has done reflects credit on the entire Amateur Radio community ... As a engineering project, it was nothing short of spectacular ... AMSAT can justifiably take pride in providing the Amateur Radio community with a new communications capability. The ARRL shares in your pride and is pleased to have had the opportunity of contributing to the project." K1ZZ

PROJECT OSCAR: "Congratulations to everyone for a job well done adding the MICROSATs to the Amateur Radio Space program. Everyone here at Project OSCAR is pleased to see the progress being made by the latest addition to the OSCAR line!" WB6GFJ

AMSAT-DL: "We congratulate all team members of MICROSAT and UoSAT for the successful launch and the great work they all have done -- well done!" DB2OS

"AMSAT-DL congratulates UoSAT, AMSAT-NA, and all participants to the successful launch and opening of all MICROSATs and UoSats. Our best wishes for the future operations and may the new satellites have a long life." DJ4ZC & DJ5KQ

/EX
SB ALL @ AMSAT $ANS-030.08
KUDOS FOR AMSAT MICROSATS, PART 2

HR AMSAT NEWS SERVICE BULLETIN 030.08 FROM AMSAT HQ
SILVER SPRING, MD JANUARY 30, 1990
TO ALL RADIO AMATEURS BT

AMSAT-UA: "I and all AMSAT-U people congratulate MICROSAT Team on successful launch of the 4 MICROSATs. Soviet news agency TASS, Central Radio and TV first reported about launch of six satellites for radio amateur application ... Best regards to all my friends." RA3AT

AMSAT-I: "WOW! We made it! Best congratulations to all of you guys for the new birds which will soon be chirping!" I2KBD & IW2ECL

JARRL: "Congratulations for the successful launch of MICROSAT and UoSAT to all you made this happen ... This is great." JA2PKI

VITA: "What a superb job everybody did ... the launch was flawless and for me personally quite an experience as it was the first time. Congrats to AMSAT for hanging in there. It was truly an inspirational moment." Gary Garriott

DRIG: "The members of the Dallas Remote Imaging Group, and the local Dallas AMSAT group congratulate the entire team for an outstanding effort." N5ITU

AMSAT-SA: "Congratulations to all! The launch of the 6 satellites is another triumph for Amateur Radio." ZS6AKV

The Board of Directors of the ARRL proclaim: "... Therefore be it resolved, that in recognition of the contribution of the amateur satellite program to the Amateur Radio service and the significant events which are to occur during the course of the year 1990 within this discipline of amateur radio, we hereby declare: 1990 THE YEAR OF THE AMATEUR RADIO SATELLITE PROGRAM"

/EX